D-24 Personal Computer Data Input for Nuclear Regulatory Commission Licensees

Effective as of January 1, 2009

A booklet of guidance for data submissions to NMMSS using electronic formats

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1. INTRODUCTION

1.1. Reporting Guidelines

Refer to the current version of the NRC Instructions for Completing Nuclear Materials Transaction Reports; NUREG/BR-0006 and Instructions for Completing Material Balance Report and Physical Inventory Listing NUREG/BR-0007 for specific Nuclear Regulatory Commission (NRC) requirements in reporting data to the NMMSS. These documents specify that data submissions may be made in acceptable electronic forms to the Nuclear Materials Management Safeguards System (NMMSS) and provide the information necessary for completing the source documents (forms) referenced in this directory.

NRC licensees required to report government owned material to NMMSS should refer to the **D-23**, **Personal Computer Data Input for Department of Energy Contractors** for guidance in the electronic reporting of this material.

1.2. Purpose

This directory provides formatting requirements for the reporting of nuclear material information in electronic file formats to the NMMSS in accordance with the NRC guidelines. A reporting licensee has the option to prepare reported data in an electronic file using the formats presented here using a variety of text editors, XML editors or programmatically in Material Control and Accountability Systems. This data is then saved as a text file and sent to NMMSS via diskette, CD, Zip disk, SIMEX, Direct Link, or electronic mail.

1.3. Acceptable Electronic Formats

The primary formats accepted by NMMSS for electronic data transfer are eXtensible Markup Language (XML) and 80 Column file format files created in the MSDOS or Windows based environments. New technologies are constantly being developed to improve data management. As these methods are tested and analyzed by NMMSS staff, revisions will be made to data input procedures and guidelines. Visit the NMMSS website, www.nmmss.com, for the latest information and guidelines.

A third alternative for submitting electronic data to NMMSS is the use of the Safeguards Management Software (SAMS) for transcribing reported data into a machine readable format. This software is currently available at no charge from NMMSS.

1.3.1. Extensible Markup Language (XML) File Format

The XML format may also be referred to as tagged data as it is based upon the use of tags (words bracketed by '<' and '>') and attributes (of the form name="value"). The NMMSS XML data submission format uses specific tags to establish the limits of units of data. An advantage of using XML is that data is represented by tags which identify the values being reported; however, these tags must be entered exactly as specified or they will not be recognizable to the import programs.

The rules for XML files are strict. The following conditions will cause a failure in an XML data import:

- □ A tag entered incorrectly (For example; using the wrong tag name, inserting spaces, or using improper capitalization).
- □ A missing tag.
- □ A missing end tag indicator (designated by the /) for every opening tag.
- □ A data attribute without surrounding quotes.

Field sizes of reported data may be adjusted to fit the value, instead of requiring additional spaces to meet the allocated size as seen in the 80 Column file formats. The reported data is entered into double quotes to the right of the attribute tag. Then, the file is saved as a text file using a file extension of .xml and submitted to NMMSS.

The use of the following characters inside the double quotes surrounding the value may be forced to be accepted by substituting the following code shown in the table below in place of the character. For example; to report a text comment such as Insert batch id 'Batch6a' in block 24D. the tag value would need to be expressed as "Insert batch id ' Batch6a' in block 24D."

Character	Code
1	'
"	"
&	&
<	<
>	>

Each type of reported data; Inventory, Transaction, and Material Balance, has specific tags as shown in more detail under each section of this document. Data codes, which are necessary to identify the data in the 80 Column file format, are inferred by the XML tag structure and therefore are not required. Refer to the individual data sections for additional details. Additional resources are available about XML online from the following websites:

- □ www.w3schools.com
- □ www.ucc.ie/xml/

1.3.2. 80 Column File Format

The 80 Column file format is a method for submitting data to NMMSS that directly correlates the columnar position of data in a text file with the related hardcopy data submission forms. In the 80 Column file format the identity of the data is interpreted by its columnar position in the file. For each type of reported data the data is entered according to a precise position within a text file that is then saved and submitted to NMMSS. Each line of data begins with basic identifying information and a data code (sometimes called a record type indicator) that indicates the type of information on the rest of the line. The repetition of the basic identifying information on each line allows the data to be linked with the new information. Allocated spaces for each data field are constant and cannot be adjusted. See the sections in this directory for each specific type of reported data and the precise placement and format of 80 Column file.

1.4. Understanding the Format Presentation

Within each format table presented in this directory the form identifier is listed along with the block identification number or number character combination found on the form. 80 Column file formatting will list the range of columns where the corresponding block of data is to be placed within the text file. XML tables will display the tag identifier (XML attribute) to be used for this block.

The <u>Type</u> column defines the form and length of the accepted data. For example, 'Char(1)' indicates that the data will consist of a single character (letter or number) and 'Char(20)' indicates that the data will consist of a combination of 20 characters, letters, and numbers. Generally, character based data fields are set to the left side of the allocated columns in an 80 Column file format; i.e. left justified. 'Date' indicates that the data is a calendar date and will be accepted in a specified format. 'Num(11,2)' indicates the data is restricted to numbers and has an overall length of 11 numbers of which two are to the right of the decimal. Generally, this data is set to the right side of the allocated columns in an 80 Column file format; i.e. right justified. A numeric value can be specified with or without the decimal in the 80-column format. Note that the decimal portion of the number is a part of the number length. For example, if the type is specified as Num(11,2) and the number value to be submitted is the whole number 15; entering 15 into 80 Column will be interpreted as 0.15. The whole number 15 should be entered as 1500 (translates to 15.00). In the XML format, a numeric value must contain a decimal. For example, if the type is specified as Num(12,3) and the number value to be submitted is the whole number 15; enter 15 as 15.00 (translates to 15.000).

The <u>Essential</u> column indicates the minimum data submission requirements for successful file import when a '\sqrt' is present in the column. This column does not indicate the necessity of data required by the NRC to be reported; only the requirement for a successful file import into NMMSS.

The <u>Note</u> column lists any remarks that will indicate special instructions, such as the format to be used or a value that remains constant. Note that all dates are to be entered in the format MMDDYYYY in 80-column and MM/DD/YYYY in XML formatted file. This means that dates will be reported with their two-digit month indication followed by the two digit day indication and then the four digit year. Note that negative numbers are generally permitted and indicated by the placement of a minus sign (-) to the left of the number. The minus sign (-) in front of the number and a decimal point are apart of the number length (Ex. Num(10,2): -123456.90). Negative Number Conversion characters will no longer be except by the NMMSS. Negative Number Conversion characters were used as the last character of a numeric value, indicated that the numeric value was a negative number and indicated the numeric value of the last character (ex. 20.0N translated to -20.05).

1.5. File Creation

In order to process electronic data without creating reporting errors the data must be created in data files that are free of formatting characters. Tabs are one of the formatting characters that will introduce errors into a file. Always use the space bar to create delineation between data fields. Many text editors such as Microsoft Word or Word Perfect, will add symbols to a file saved by the default method in order to maintain a finished look. This is overcome by saving the file (in any text editor) specifying the SAVE AS option and designating the file as a text

file which removes the formatting characters. This will prevent most extraneous characters from being added to the file. Always review each data file created to verify that no extraneous characters were added. An example of an 80 Column file format inventory data file that has been saved with extraneous formatting characters is shown in Example 1. The correct format using the same data is shown in Example 2.

Example 1; 80 Column data file with extraneous data that creates errors.

```
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   6
                              3/4
                                                   Ù 101312002AAA 10 861
6
         ‡ 0 ·
                   6
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                                    У
                                         6
                         000001
20900JNS456-999Y 000 J
101312002AAA 10 861
                      992300
                                90020NSJ564-669Y 000 J
                                                         000001
101312002AAA E4 864
                        1600
                                 1488SNS4781341Y 000 J
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```

Example 2; Same 80 Column data file without the extraneous data that cause errors.

101312002AAA 10 861	3329900	20900JNS456-999Y 000) J 000001
101312002AAA 10 861	992300	90020NSJ564-669Y 000	0 J 000001
101312002AAA E4 864	1600	1488SNS4781341Y 000) J 000003

A file extension should be assigned which indicates the type of file format used. For example, a file submitted in an 80 Column format may end in .txt or any other preferred variation; an XML file should always end in .xml.

1.6. Data Submission Methods

Contact the NMMSS staff, (803)-725-9811, for additional directions regarding the use of SIMEX, Direct Link, or electronic mail. Electronic data may be mailed through the U.S. Postal Service on electronic media to the following address.

U.S. Department of Energy Savannah River Nuclear Solutions NMMSS Operations Building 703-45A Aiken, SC 29808

(For classified documents) Refer to SIMS for a Classified Address (For unclassified documents) Attn: NMMSS Project / Jerry O'Leary

When mailing electronic media to NMMSS label the media with the following information:

- Licensee's RIS (Reporting Identification Symbol of the data source)
- Name and telephone number of the person to contact if there are problems or questions
- Name of the data file
- Any special instructions, comments or explanations

Note: A printed listing of the electronic data may be included with the electronic media and may expedite data processing in the event a damaged disk is received. It is not necessary to include the DOE/NRC forms when submitting data electronically to the NMMSS.

2. TRANSACTION DATA

2.1. Requirements for DOE/NRC Form 741 and Concise Notes

2.1.1. XML File Formatting

An example of transaction submission in XML format is shown below. Additional examples are shown in Appendix B along with the corresponding DOE/NRC forms.

```
<TRANSACTIONS>
 <SHIPMENT SHIPPERRIS="ABC" RECEIVERRIS="DEF" TRANSFERNUMBER="00000131" CORRECTION=""</p>
PROCESSCODE="A" ACTIONCODE="A" NUMBEROFLINES="1" NATUREOFTRANSACTION="W" SHIPPEDFORRIS="FGG"
SHIPPEDTORIS="HIJ" TRANSFERAUTHORITY="" UKFLAG="N" ACTIONDATE="12/31/2002" LICENSENUMBER="987654321"
TOTALGROSSWEIGHT="20081" TOTALVOLUME="45645" SEALEDSOURCE="" TOTRANSFERAUTHORITY="">
  <CONCISENOTE LINENUMBER="1" ENTRYREFERENCE="Whole report" TEXTOFCONCISENOTE="Note text goes here">
  </CONCISENOTE>
   <OBLIGATION>
    <MATERIAL LINENUMBER="1" COUNTRYCODE="32">
     <ELEMENT ELEMENTWEIGHT="12333.00" UNIT="">
       < ISOTOPE MATERIALTYPE="10" ISOTOPEWEIGHT="999.00" UNIT=""/>
     </ELEMENT>
    </MATERIAL>
   </OBLIGATION>
   <MATERIAL PROJECT="ACD1209873" COEILINENUMBER="809" TYPEINVENTORYCHANGE="" OWNER="G"</p>
KEYMEASUREPOINT="W" MEASUREBASIS="E" OTHERMEASUREPOINT="R" MEASUREMETHOD="T"
GROSSWEIGHT="100.00" NETWEIGHT="100.00" TOPROJECT="" TOCOEILINENUMBER="" BACKREFLINENUMBER="001"
LINENUMBER="1" BATCH="BATCH 0411H" NUMBEROFITEMS="5">
     <ELEMENT ELEMENTWEIGHT="455555.00" ELEMENTLOE="5" UNIT="">
     <ISOTOPE MATERIALTYPE="10" WEIGHTPERCENT="16.0000" ISOTOPEWEIGHT="456.00" ISOTOPELOE="65"</p>
UNIT="">
     </ISOTOPE>
    </ELEMENT>
  </MATERIAL>
 </SHIPMENT>
</TRANSACTIONS>
```

Root Tag <TRANSACTIONS>

Header Information < SHIPMENT>

<u>Field Description</u>	<u>741</u>	XML Attribute	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Shipper RIS	1	SHIPPERRIS	Char(4)	\checkmark	
Receiver RIS	2	RECEIVERRIS	Char(4)	\checkmark	
Transaction/Transfer Number	3	TRANSFERNUMBER	Char(8)	\checkmark	Right justified Zero fill blanks
Correction Number	4	CORRECTION	Char(1)		
Process Code	5	PROCESSCODE	Char(1)	\checkmark	See Appendix A.
Action Code	6	ACTIONCODE	Char(1)	\checkmark	
Number of Data Lines	10	NUMBEROFLINES	Num(5)	\checkmark	
TI Code/Nature of Transaction	11	NATUREOFTRANSACTION	Char(1)		
RIS For Account	12b	SHIPPEDFORRIS	Char(4)		
RIS To Account	13b	SHIPPEDTORIS	Char(4)		
Transfer Authority	14	TRANSFERAUTHORITY	Char(17)		

IAEA UK Reportable ¹	23c	UKFLAG	Char(1)	
Action Date	22	ACTIONDATE	Date	MM/DD/YYYY
License Number	15	LICENSENUMBER	Char(10)	
Total Gross Weight	24	TOTALGROSSWEIGHT	Num(10)	Whole numbers
Total Volume ²	25	TOTALVOLUME	Num(10)	Whole numbers
Sealed Source		SEALEDSOURCE	Char(10)	List tag only
Receiving Transfer Authority		TOTRANSFERAUTHORITY	Char(17)	List tag only

Concise Note Information < CONCISENOTE>

Note: if concise note information is not reported, there is no need to include a Concise Note section.

Field Description	<u>740M</u>	XML Attribute	<u>Type</u>	Essential Note
Line Number	7a	LINENUMBER	Num(2)	
Entry Reference	7b	ENTRYREFERENCE	Char(20)	
Concise Note Text	7c	TEXTOFCONCISENOTE	Char(60)	

Material Description Information < MATERIALDESCRIPTION>

Field Description741XML AttributeTypeEssentialNoteDescriptionDESCRIPTIONChar(1000)

Miscellaneous Information < MISCELLANEOUS>

Field Description741XML AttributeTypeEssentialNoteTextTEXTChar(1000)

Obligation Information < OBLIGATION>

Note: if obligated data is not reported, there is no need to include an Obligation section.

Obligation Information < MATERIAL>

Field Description	<u>741</u>	XML Attribute	<u>Type</u>	Essential Note
Line Number	17	LINENUMBER	Num(5)	\checkmark
Country ³	18	COUNTRYCODE	Char(2)	

Obligation Information < ELEMENT>

Field Description	<u>741</u>	XML Attribute	<u>Type</u>	Essential Note
Obligated Element Weight ⁴	20	ELEMENTWEIGHT	Num(15,3))
			Value	must include a decimal point.
Unit of Measure		UNIT	Char(4)	List tag only

Obligation Information <ISOTOPE>

Field Description741XML AttributeTypeEssentialNoteMaterial Type19MATERIALTYPEChar(2)

¹ The IAEA UK reportable indication is only required for transactions involving United Kingdom facilities. Reporting 'R' indicates that the UK data is reportable to the IAEA. Reporting 'N' indicates that the UK data is not reportable to the IAEA. Leave this field blank for data that does not involve the United Kingdom facilities.

² Report total volume in cubic feet for material transferred to or from a nuclear waste management facility.

³ Call the NMMSS or go to NMMSS.com for the latest list of obligation country.

⁴ The RIS must attain authorization from NRC to report to the 3rd decimal. Three decimal reporting is only allowed when reporting Source Material.

Obligated Isotope Weight ^{5,6}	21	ISOTOPEWEIGHT	Num(15,3)	\checkmark
			Value mu	ust include a decimal point.
Unit of Measure		UNIT	Char(4)	List tag only

Detail Information < MATERIAL>

Note: If <u>both</u> the element weight and isotope weight are zero, there is no need to include a Material section.

Field Description	<u>741</u>	XML Attribute	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Project Number ⁷	26/27 f	PROJECT	Char(10)		
Composition Facility Code	26/27 h	COEILINENUMBER	Char(4)		
Type of Inventory Change	26/27 c	TYPEINVENTORYCHANGE	Char(2)		
Owner Code	26/27 i	OWNER	Char(1)		
Key Measurement Point	26/27 j	KEYMEASUREPPOINT	Char(2)		
Measurement Basis	26/27 k1	MEASUREBASIS	Char(1)		
Other Measurement Point	26/27 k2	OTHERMEASUREPOINT	Char(2)		
Measurement Method	26/27 k3	MEASUREMETHOD	Char(1)		
Gross Weight	26/27 I	GROSSWEIGHT	Num(10)		
Net Weight	26/27 m	NETWEIGHT	Num(10)		
Receiving Project Number		TOPROJECT	Char(10)		List tag only
Receiving Composition Facility	Code	TOCOEILINENUMBER	Char(4)		List tag only
Back Reference Number ⁸	26/27 a	BACKREFLINENUMBER	Char(3)		Zero fill blanks
Line Number	26/27 b	LINENUMBER	Num(5)	\checkmark	
Batch Name/Identification	26/27 d	BATCH	Char(16)		ALL Caps
Number of Items	26/27 e	NUMBEROFITEMS	Num(2)		

Detail Information < ELEMENT>

<u>Field Description</u>	<u>741</u>	XML Attribute	<u>Type</u>	<u>Essential</u> <u>Note</u>
Element Weight ⁵	26/27 n	ELEMENTWEIGHT	Num(12,3)	\checkmark^9
			Va	ue must include a decimal point.
Element Limit of Error	26/27 o	ELEMENTLOE	Num(5)	Whole numbers
Unit of Measure		UNIT	Char(4)	List tag only

⁷ Project numbers are reported only for government owned material.

 $^{^{5}}$ The RIS must attain authorization from NRC to report to the 3^{rd} decimal. Three decimal reporting is only allowed when reporting Source Material.

⁶ Obligated Isotope Weight is required for Enriched Uranium only.

⁸ Back Reference Number; the first character is the correction identifier. The second and third characters are the line number referenced. When reported, insert zeros for blank values.

⁹ Element or Isotope weight may be essential to successful file import depending on the specified material type.

Detail Information <ISOTOPE>

Field Description	<u>741</u>	XML Attribute	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Material Type	26/27 g	MATERIALTYPE	Char(2)		
Weight Percent Isotope/Parts Per Million	26/27 p	WEIGHTPERCENT	Num(6,4) ¹⁰		
			Value mus	st include a	decimal point.
Isotope Weight ¹¹	26/27 q	ISOTOPEWEIGHT	Num(12,3)	$\sqrt{12}$	
			Value mus	st include a	decimal point.
Isotope Limit of Error	26/27 r	ISOTOPELOE	Num(5)		Whole numbers
Unit of Measure		UNIT	Char(4)		List tag only

¹⁰ Weight Percent Isotope/Parts Per Million is reported as a percentage except when the material type is 70 (total uranium enriched in U-233), which is reported using 6 numeric digits and converted to decimal form by NMMSS. ¹¹ The RIS must attain authorization from NRC to report to the 3rd decimal. Three decimal reporting is only allowed

when reporting Source Material.

¹² Element or Isotope weight may be essential to successful file import depending on the specified material type.

2.1.2. 80 Column File Formatting

An example of a transaction submission in an 80 column file format document is shown below. Additional examples are shown in Appendix B along with the corresponding DOE/NRC forms. Note that gridlines and the numbering structure at the top are not a part of the data submission. They are provided for demonstration purposes only

			1					П			2									3		Т				Г		4	Τ							5								6								7								-
1 2 3	4 5 6 7	7 8	9 0	1	2	3 4	5	6	7 8	3 9	0	1	2	3	4 5	6	7	8	9	0	1 2	2 3	4	5	6 7	8	9	0 1	1 2	2 3	4	5	6 7	8	9	0 '	1 2	2 3	4	5	6 7	7 8	9	0	1 2	3	4	5	6 7	7 8	9	0	1	2 3	3 4	5	6	7	8 9	9 (
		Ш						Ш																																																Ш				
ABC	DEF	-	0 0	0	1 3	3 1		Α	1	4 1	0	3																																								1	2	3 1	2	0	0	2		
ABC	DEF	=	0 0	0	1 3	3 1		Α	1	4 2	0	1			Д	В	A	Т	C	Н	ı	D)							1									1	0	3 (9)	١,	J					Ι										
ABC	DEF	=	0 0	0	1 3	3 1		Α	1	4 5	0	1		Т	Т	Т				Т	Т	Т	П	П	Т	Г			Т	Т			Т	Г	4	2 (6 0	0					Т	-	6 6	1	0		Т	Т	Г			3	0	0		Т		T
ABC	DEF	=	0 0	0	13	3 1		Α	1	4 2	0	2		-	Д	В	Α	Т	C	Н	-	D)	П		Г			T	1			Т	Г		T	T	Т	2	0	3 (9)	١,	J				T	Т	Г			T	Т	П				Т
ABC	DEF	=	0 0	0	13	3 1		Α	1	4 5	0	2		T	T	Т				T	T	Т	П	П		Г		Т	T	Т			T	2	2	1 3	3 0	0	П	П			Т	2	5 3	0	5	Т	T	T	Г			5 6	0	0	П		Т	T
ABC	DEF	=	0 0	0	13	3 1		Α	1	4 2	0	3		-	Д	В	А	Т	C	Н	ı	D)	П						1									5	0	3 (9)	١,	J					T				T						T
ABC	DEF	=	0 0	0	13	3 1	T	Α	1	4 5	0	3		T	T	T				T	T	T	П	П	Т	Т			T	T		T	T	Т	9	0 1	1 0	0 (П	T	T	9	9	3 3	4	0		T	T	T		8	9 5	0	0		T		Т
ABC	DEF	=	0 0	0	1 3	3 1		Α	1	4 4	i			\top						\top		\top	П	П				\top	\top	†		\top	\top	†			\top		П		\top	\top			2	0	0	8	1	\top				\top	†	П		\neg		Ť

Header Information (Data Code 1)

Field Description	<u>741</u>		mn File Position			
		<u>Begin</u>	<u>End</u>	<u>Type</u>	Essential	<u>Note</u>
Shipper RIS	1	1	4	Char(4)	\checkmark	Left justified
Receiver RIS	2	5	8	Char(4)	\checkmark	Left justified
Transaction/Transfer Number	3	9	14	Char(6)	✓	Right justified Zero fill blanks
Correction Number (Change Digit)	4	15	15	Char(1)		
Process Code	5	16	16	Char(1)	\checkmark	See Appendix A
Action Code	6	18	18	Char(1)	\checkmark	
Data Code	-	19	19	Num(1)	\checkmark	Value is 1
Number of Data Lines	10	20	21	Num(2)	\checkmark	Right justified
TI Code/Nature of Transaction	11	22	22	Char(1)		
RIS For Account	12	23	26	Char(4)		Left justified
RIS To Account	13	27	30	Char(4)		Left justified
Transfer Authority	14	34	50	Char(17)		Left justified
IAEA UK Reportable ¹³	23c	69	69	Char(1)		
Action Date	22	70	77	Date		MMDDYYYY

Visual representation of field p	lacem	ent in	80 (Colur	nn Fi	le fo	orma	ttin	g of	trans	act	ion he	eader informat	ion.
741A Header Information (Data Code 1)														
1 2 3 4 5 6 7 8 9 10 11 12	2 13 14	15 16	17 18	3 19 2	0 21 2	22 23	24 2	5 26	27 2	8 29 3	0 3	1 32 33	34 35 36 37 38	39 40
Shipper RIS Receiver RIS Transfer I	Num	CoPC	Α	dod(#	Line]	T R	IS For	Acct	RIS	To Acc	t			Tran
41 42 43 44 45 46 47 48 49 50	51 52 5	3 54 5	55 56	57 58	59 60	61	62 63	64 6	5 66	67 68	69	70 71	72 73 74 75 76 7	7 78 79 80
ansfer Authority											U		Action Date	С

¹³ The IAEA UK reportable indication is only required for transactions involving United Kingdom facilities. Reporting 'R' indicates that the UK data is reportable to the IAEA. Reporting 'N' indicates that the UK data is not reportable to the IAEA. Leave this field blank for data that does not involve the United Kingdom facilities.

Detail Information (Data Code 2)

Field Description	<u>741</u>	80 Colu Format	<u>mn File</u> Position			
<u>, 1614 2636, p. 1611</u>		Begin	<u>End</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Shipper RIS	1	1	4	Char(4)	\checkmark	Left justified
Receiver RIS	2	5	8	Char(4)	\checkmark	Left justified
Transaction/Transfer Number	3	9	14	Char(6)	✓	Right justified Zero fill blanks
Correction Number (Change Digit)	4	15	15	Char(1)		
Process Code	5	16	16	Char(1)	\checkmark	See Appendix A.
Action Code	6	18	18	Char(1)	\checkmark	
Data Code	-	19	19	Num(1)	\checkmark	Value is 2
Line Number	26/27 b	20	21	Num(2)	\checkmark	Right justified
Type of Inventory Change	26/27 c	22	23	Char(2)		
Batch Name/Identification	26/27 d	24	39	Char(16)		Left justified All Caps
Number of Items	26/27 e	40	43	Num(4)		Right justified
Project Number ¹⁴	26/27 f	44	53	Char(10)		Left justified
Material Type	26/27 g	54	55	Char(2)		Left justified
Composition-Facility Code	26/27 h	56	59	Char(4)		Left justified
Owner Code	26/27 i	61	61	Char(1)		
Key Measurement Point	26/27 j	70	71	Char(2)		Left justified
Measurement Basis	26/27 k1	72	72	Char(1)		
Other Measurement Point	26/27 k2	73	74	Char(2)		Left justified
Measurement Method	26/27 k3	75	75	Char(1)		
Back Reference Number ¹⁵	26/27 a	76	78	Char(3)		Zero fill blanks

Note: If both the element weight and isotope weight are zero, there is no need to submit a data line for data code 2 and 5.

Visual representation of field placen	ent in 80 column file for	rmatting of transaction detail informa	tion.
741A Detail Information (Data Code 2)			
1 2 3 4 5 6 7 8 9 10 11 12 13 1	15 16 17 18 19 20 21 22 23	8 24 25 26 27 28 29 30 31 32 33 34 35 36 37	38 39 40
Shipper RIS Receiver RIS Transfer Num	CoPC ACDC[Line#] TIC	Batch ID	1
<u> 41 42 43 44 45 46 47 48 49 50 51 52</u>	53 54 55 56 57 58 59 60 61	62 63 64 65 66 67 68 69 70 71 72 73 74 75	76 77 78 79 80
# Items Project #	MT Comp Code 0	KMP Mb OMP Mn	B Ref#

Project numbers are reported only for government owned material.
 Back Reference Number; the first character is the correction identifier. The second and third characters are the line number referenced. When reported, insert zeros for blank values.

Quantitative Detail Information (Data Code 5)

Field Description	<u>741</u>	80 Colu Format Position				
		<u>Begin</u>	<u>End</u>	<u>Type</u>	Essential	<u>Note</u>
Shipper RIS	1	1	4	Char(4)	\checkmark	Left justifiede
Receiver RIS	2	5	8	Char(4)	\checkmark	Left justified
Transaction/Transfer Number	3	9	14	Char(6)	✓	Right justified Zero fill blanks
Correction Number (Change Digit)	4	15	15	Char(1)		
Process Code	5	16	16	Char(1)	\checkmark	See Appendix A.
Action Code	6	18	18	Char(1)	\checkmark	
Data Code	-	19	19	Num(1)	\checkmark	Value is 5
Line Number	26/27 b	20	21	Num(2)	\checkmark	Right justified
Gross Weight	26/27 I	22	26	Num(5)		Right justified
Net Weight	26/27m	27	34	Num(8)		Right justified
Element Weight	26/27 n	43	53	Num(11,2)	\checkmark^{16}	Right justified
The value can co	ntain a de	cimal po	int. Or	nly XML forma	nt accepts 3	3 decimal place values.
Element Limit of Error	26/27 o	54	58	Num(5)		Right justified
Weight Percent Isotope/Parts Per Million	26/27 p	59	64	Num(6,4) ¹⁷	7	Right justified
				The \		ontain a decimal point.
Isotope Weight	26/27 q	65	75	Num(11,2)	\checkmark^{16}	Right justified
The value can co	ntain a de	cimal po	int. Or	nly XML forma	nt accepts 3	3 decimal place values.
Isotope Limit of Error	26/27 r	76	80	Num(5)		Right justified

Note: If both the element weight and isotope weight are zero, there is no need to submit a data line for data code 2 and 5.

Visual representation of field placemen	nt in 80 Column File formattin	g of transaction detail inform	ation.
741A Detail Information (Data Code 5)			
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	5 16 17 18 19 20 21 22 23 24 25 26	27 28 29 30 31 32 33 34 35 36 37	38 39 40
Shipper RIS Receiver RIS Transaction Num Co	oPC AQDC[Line#] Gross Weight	Net Weight	
41 42 43 44 45 46 47 48 49 50 51 52 53	54 55 56 57 58 59 60 61 62 63 64 (65 66 67 68 69 70 71 72 73 74 75	76 77 78 79 80
Element Weight	Ele Limit of Error Weight %	Isotope Weight	Iso Limit of Error

¹⁶ Element or Isotope weight may be essential to successful file import depending on the specified material type.
¹⁷ Weight Percent Isotope/Parts Per Million is reported as a percentage except when the material type is 70 (total) uranium enriched in U-233), which is reported using 6 numeric digits and converted to decimal form by NMMSS.

Import/Export Detail Information (Data Code 3)

Field Description	<u>741</u>	80 Colum Format P				
		<u>Begin</u>	<u>End</u>	<u>Type</u>	Essential	<u>Note</u>
Shipper RIS	1	1	4	Char(4)	\checkmark	Left justified
Receiver RIS	2	5	8	Char(4)	\checkmark	Left justified
Transaction/Transfer Number	3	9	14	Char(6)	✓	Right justified Zero fill blanks
Correction Number (Change Digit)	4	15	15	Char(1)		
Process Code	5	16	16	Char(1)	\checkmark	See Appendix A.
Action Code	6	18	18	Char(1)	\checkmark	
Data Code	-	19	19	Num(1)	\checkmark	Value is 3
License Number (Import/Export)	15	22	31	Char(10)		Left justified

Note: if no applicable license number is reported, there is no need to submit a data line for data code 3.

Visual rep	resent	atio	n (of f	ielo	d p	lac	em	en	t in	80	C	olu	mı	ı F	ile	for	ma	tti	ng	of	tra	ns	act	ior	ı d	eta	il i	inf	orı	na	tio	n.	
741A Transpo	rtation l	nform	natio	on (D	Data	а Со	de	3)																										
1 2 3 4	5 6	7	8	9 10) 1	1 12	1:	3 14	15	16	17	18	19	20	21 :	22 2	3 2	4 2	5 2	6 2	7 2:	8 2:	9 31	0 3	1 32	2 33	3 34	1 3!	5 3	6 3	7 3	8 3:	9 40	J
Shipper RIS	Receiv	er Ri	s	Tran	nsa	ctio	n N	um	Co	PC		Αd	od					Lic	ens	e N	umb	er					Т	Т	Τ	Т	Τ			Ι
																																		_
41 42 4	3 44 4	5 46	47	48	49	50	51	52 !	53 5	4 5	5 5	6 5	7 58	5 5	9 60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79 /

Packaging Detail Information (Data Code 4)

Field Description	<u>741</u>	<u>80 Colu</u> Format	<u>mn File</u> Position			
		<u>Begin</u>	<u>End</u>	<u>Type</u>	Essential	<u>Note</u>
Shipper RIS	1	1	4	Char(4)	\checkmark	Left justified
Receiver RIS	2	5	8	Char(4)	\checkmark	Left justified
Transaction/Transfer Number	3	9	14	Char(6)	\checkmark	Right justified Zero fill blanks
Correction Number (Change Digit)	4	15	15	Char(1)		
Process Code	5	16	16	Char(1)	\checkmark	See Appendix A.
Action Code	6	18	18	Char(1)	\checkmark	
Data Code	-	19	19	Num(1)	\checkmark	Value is 4
Total Gross Weight	24	57	66	Num(10)		Right justified Whole number
Total Volume ¹⁸	25	67	75	Num(9)		Right justified Whole number

Note: if total gross weight and/or total volume is not reported, there is no need to submit a data line for data code 4.

Visual representation of field	placement in 80	Column File formatting of t	transaction package information.
741A Packaging Information (Data Code	4)		
1 2 3 4 5 6 7 8 9 10 11	12 13 14 15 16 17 1	18 19 20 21 22 23 24 25 26 27 28	3 29 30 31 32 33 34 35 36 37 38 39 40
Shipper RIS Receiver RIS Transact	ion Num CoPC A	Adod	
41 42 43 44 45 46 47 48 49 5	0 51 52 53 54 55 56	5 57 58 59 60 61 62 63 64 65 66	67 68 69 70 71 72 73 74 75 76 77 78 79 80
		Total Gross Weight	Total Volume

¹⁸ Report total volume in cubic feet for material transferred to or from a nuclear waste management facility.

Obligation Information (Data Code 7)

Field Description	<u>741</u>		umn File t Position			
		<u>Begin</u>	<u>End</u>	<u>Type</u>	Essential	<u>Note</u>
Shipper RIS	1	1	4	Char(4)	\checkmark	Left justified
Receiver RIS	2	5	8	Char(4)	\checkmark	Left justified
Transaction/Transfer Number	3	9	14	Char(6)	✓	Right justified Zero fill blanks
Correction Number (Change Digit)	4	15	15	Char(1)		
Process Code	5	16	16	Char(1)	\checkmark	See Appendix A.
Action Code	6	18	18	Char(1)	\checkmark	
Data Code	-	19	19	Num(1)	\checkmark	Value is 7
Line Number	17	20	21	Num(2)		Right justified
Material Type	19	22	23	Char(2)		Left justified
Obligated Element Weight	20	24	34	Num(11,2)	\checkmark	Right justified
The value ca	an contai	n a decii	mal point.	Only XML fo	ormat accept	s 3 decimal place values.
Obligated Isotope Weight ¹⁹	21	35	45	Num(11,2)		Right justified
				7	The value car	n contain a decimal point.
Country ²⁰	18	46	47	Char(2)		Left justified

Note: if obligated data is not reported, there is no need to submit a data line for data code 7.

Visual representation information.	of field p	lacemen	t in 80	Colu	ımn F	Tile fo	rmatt	ing of	Transa	ction Obli	igation
741A Obligation Information	(Data Code 7)	l									
1 2 3 4 5 6 7 8	9 10 11 12	13 14 15	16 17	18 19	20 21	22 23	24 25	26 27 28	3 29 30 3	31 32 33 34	35 36 37 38 39 40
Shipper RIS Receiver RIS	Transactio	n Num - Co	APC	АФС	[Line#]	MT		Elen	ent Weigh	ıt .	Isotope W
41 42 43 44 45 46 47	48 49 50 5	51 52 53 54	4 55 56	57 58	59 60	61 62	63 64	65 66 6	7 68 69	70 71 72 73	3 74 75 76 77 78 79
Weight Ctry											

Obligated Isotope Weight is required for Enriched Uranium only.
 Call the NMMSS or go to NMMSS.com for the latest list of obligation country.

Concise Note Information DOE/NRC Form 740M (Data Code 6)

Field Description	<u>740M</u>		umn File t Position	!		
		<u>Begin</u>	<u>End</u>	<u>Type</u>	Essential	<u>Note</u>
Shipper RIS	5a	1	4	Char(4)	\checkmark	Left justified
Receiver RIS	5b	5	8	Char(4)	\checkmark	Left justified
Transaction/Transfer Number	5c	9	14	Char(6)	\checkmark	Right justified Zero fill blanks
Correction Number (Change Digit)	5d	15	15	Char(1)		
Process Code	5e	16	16	Char(1)	\checkmark	See Appendix A.
Action Code	5f	18	18	Char(1)	\checkmark	
Data Code	-	19	19	Char(1)	\checkmark	Value is 6
Entry Reference	7b	24	39	Char(16)	\checkmark	Left justified
Line Number	7a	40	41	Char(2)	✓	Left justified Zero fill blanks
Concise Note Text	7c	42	80	Char(39)	\checkmark	Left justified

Note: if concise note information is not reported, there is no need to submit a data line for data code 6.

Visu	al r	ep	res	ent	ati	on	of	fie	eld	pla	ace	me	ent	in	80	C	olu	m	n F	ile	fo	rn	ıat	tin	g o	f tı	rar	ısa	cti	on	co	nci	ise	no	te	inf	orı	na	tior	ı.
740M	Con	ncis	e No	ote (I	Data	а С	ode	6)																																
1 2	2 3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
Ship	per F	ilS	Re	ceiv	er F	is	Т	rans	act	ion	Nun	n	Col	Рd		Adı	od										E	Entr	y Re	fere	ence							Line	e #	
		42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
																		Т	ext	of (Con	cis	e No	ote																

3. INVENTORY DATA

3.1. Requirements for DOE/NRC Form 742C

3.1.1. XML File Formatting

An example of an inventory submission in XML format is shown below. Additional examples are shown in Appendix B along with the corresponding DOE/NRC form.

```
<PHYSICALINVENTORY>
 <INVENTORY RIS="ABC" DATE="02/28/2001" >
  <CONCISENOTE PROCESSCODE="A" LINENUMBER="1" ENTRYREFERENCE="Whole report"
TEXTOFCONCISENOTE="Note text goes here">
  </CONCISENOTE>
  <MATERIAL PROCESSCODE="A" SEQUENCENUMBER="2" PROJECT="AAE2021003" COEILINENUMBER="385"</p>
OWNER="G" KEYMEASUREPOINT="B" MEASUREBASIS="F" OTHERMEASUREPOINT="B" MEASUREMETHOD="T"
SCRAPPROGRAM="" ENTRYSTATUS="" NUMBEROFITEMS="500" BATCH="BATCH001" LOCATION="" SITEMBA="">
    CONCISENOTE PROCESSCODE="A" LINENUMBER="1" ENTRYREFERENCE="Whole report"
TEXTOFCONCISENOTE="Note text goes here">
    </CONCISENOTE>
    <ELEMENT ELEMENTWEIGHT="10.00" UNIT="">
    <ISOTOPE MATERIALTYPE="31" WEIGHTPERCENT="16.0000" ISOTOPEWEIGHT="16.00" UNIT="">
    </ISOTOPE>
    </ELEMENT>
  </MATERIAL>
 </INVENTORY>
</PHYSICALINVENTORY>
```

Root Tag <PHYSICALINVENTORY>

Header Information < INVENTORY>

Field Description	<u>742C</u>	XML Attribute	<u>Type</u>	Essential	<u>Note</u>
RIS	2	RIS	Char(4)	\checkmark	
Inventory Report Date	3	DATE	Date	\checkmark	MM/DD/YYYY

Concise Note Information Attached to Header < CONCISENOTE>

Note: if concise note information is not reported, there is no need to include a Concise Note section.

<u>Field Description</u>	<u>740M</u>	XML Attribute	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Process Code	5e	PROCESSCODE	Char(1)	\checkmark	See Appendix A.
Line Number	7a	LINENUMBER	Num(2)		
Entry Reference	7b	ENTRYREFERENCE	Char(20)		
Concise Note Text	7c	TEXTOFCONCISENOTE	Char(60)		

Detail Information < MATERIAL>

Note: If <u>both</u> the element weight and isotope weight are zero, there is no need to include a Material section.

<u>Field Description</u>	<u>742C</u>	XML Attribute	<u>Type</u>	<u>Essential</u>	
Process Code	5q	PROCESSCODE	Char(1)	\checkmark	See Appendix A.

Sequence Number ²¹	5i	SEQUENCENUMBER	Num(6)	\checkmark
Project Number ²²	5e	PROJECT	Char(10)	
Composition-Facility Code ²³	5b	COEILINENUMBER	Char(4)	
Owner Code	5h	OWNER	Char(1)	
Key Measurement Point	5l	KEYMEASUREPOINT	Char(2)	
Measurement Basis	5m	MEASUREBASIS	Char(1)	
Other Measurement Point	5m	OTHERMEASUREPOINT	Char(2)	
Measurement Method	5m	MEASUREMETHOD	Char(1)	
Scrap Program	5f	SCRAPPROGRAM	Char(1)	
Entry Status	5n	ENTRYSTATUS	Char(1)	
Number of Items	5k	NUMBEROFITEMS	Num(5)	
Batch Name/Identification	5j	BATCH	Char(16)	All Caps
Location of Item	50	LOCATION	Char(30)	
Site MBA Code	5р	SITEMBA	Char(30)	

Concise Note Information Attached to Material (Item) < CONCISENOTE>

Note: if concise note information is not reported, there is no need to include a Concise Note section.

Field Description	<u>740M</u>	XML Attribute	<u>Type</u>	Essential	<u>Note</u>
Process Code	5e	PROCESSCODE	Char(1)	\checkmark	See Appendix A.
Line Number	7a	LINENUMBER	Num(2)		
Entry Reference	7b	ENTRYREFERENCE	Char(20)		
Concise Note Text	7c	TEXTOFCONCISENOTE	Char(60)		

Detail Information <ELEMENT>

Field Description	742C	XML Attribute	<u>Type</u>	<u>Essential</u>
Element Weight ²⁴	5c	ELEMENTWEIGHT	Num(15,3)	$\sqrt{25}$
			Valu	e must include a decimal point.
Unit of Measure		UNIT	Char(4)	List tag only

Detail Information <ISOTOPE>

742C XML Attribute Field Description **Type Essential** MATERIALTYPE Material Type 5a Char(2) WEIGHTPERCENT Num(6,4) 26 Weight Percent Isotope/Parts Per Million 5g Value must include a decimal point. Isotope Weight²⁴ 5d ISOTOPEWEIGHT Num(15,3) Value must include a decimal point. UNIT Unit of Measure Char(4) List tag only

²⁴ The RIS must attain authorization from NRC to report to the 3rd decimal. Three decimal reporting is only allowed when reporting Source Material.

²¹ Sequence number should begin at one for the entire inventory or each material type group (Generic MT 20 includes MT 21 - 39 and E1 - E4) and should be consecutively numbered including the total line (composition code 899).

²² Project numbers are reported only for government owned material.

²³ For total lines, this field will always contain "899".

²⁵ Element or Isotope weight may be essential to successful file import depending on the specified material type.

²⁶ Weight Percent Isotope/Parts Per Million is reported as a percentage except when the material type is 70 (total uranium enriched in U-233), which is reported using 6 numeric digits and converted to decimal form by NMMSS.

3.1.2. 80 Column File Formatting

An example of an inventory submission in an 80 column file format document is shown below. Additional examples are shown in Appendix B along with the corresponding DOE/NRC form. Note that gridlines and the numbering structure at the top are not a part of the data submission. They are provided for demonstration purposes only.

П	Т	Г			П	Т	-	1	Т	Т	Т	Т						2		Т	Т	Т	Т	Т	Τ	Т	3			П		П	Т	Т	Т	4		П				Т	Т	Т	T	5	Т	Т	Т	Т			Т	(3	Т	Г							7		Т	Т	Т	Τ	Т	Τ	Т	
1	2 3	4	5	6	7	8	9 (0	1 :	2	3	4	5	6	7	8	9	0	1	2	3 4	1 5	6	7	8	9	0	1	2	3	4	5	6	7 8	3 9	9 0	1	2	3	4	5	6	7	8	9	0 1	1 3	2 :	3 4	5	6	7	8	9 () 1	2	3	4	5	6	7	8	9	0	1	2	3	4 5	5 6	6 7	8	8 9	9
1	1 2	3	1	2	0	0	2 /	ΔI	В	С	ı	E	1	F	0	2					Т	Т	Т	Г	Т	9	9	0	0			Т	Т	Τ	Т		Г	1	8	0	0	Т	Т	Т	Т			Т	Т				Т	Т	Τ	Г	Г					J				Т	-	Α (0) (0) (0
i	1 2	3	1	2	0	0	2 /	ΔI	В	С	1	2	0	8	9	9									T	9	9	0	0					T		T		1	8	0	0															T						J					-	Α (0) (0) (0
	1 2	3	1	2	0	0	2 /	ΔI	В	С		8	1	7	7	1					Т	Т	Т	Т	Т	4	5	0	0		T			Т		Т					T		Т	T	T	T		Т	Т	Г			T	Т	Т	Т	Г					J			T	T		Α (0) (0) (0
1	1 2	3	1	2	0	0	2 /	ΔI	В	С	-	8	1	7	7	1					T			Т	T	6	5	0	0					T		T					T		T		T	T		T	T							T	Т					J			T	T	1	Α (0	0	0	0	0
1	1 2	3	1	2	0	0	2 /	ΔI	В	С		8	1	8	9	9				\top	Ť	T	T	T	1	1	0	0	0	T	\top	T	\top	Ť	Т	T	Т	Т				T	Т	T	T	т	T	T	\top			П	Ť	T	T	T	Т					J				T		Α (0) (0 () (0

Physical Inventory Listing Header Information (Data Code 1)

Field Description	<u>742C</u>	80 Colo Forma Positio	•	<u>e</u>		
		<u>Begin</u>	<u>End</u>	<u>Type</u>	Essential	<u>Note</u>
Data Code	-	1	1	Num(1)	\checkmark	Value is 1
Inventory Report Date	3	2	9	Date	\checkmark	MMDDYYYY
RIS	2	10	13	Char(4)	\checkmark	Left justified
Material Type Code	5a	14	15	Char(2)	\checkmark	Left justified
Composition-Facility Code ²⁷	5b	16	19	Char(4)	\checkmark	Left justified
Element Weight	5c	20	32	Num(13,2)	\checkmark^{28}	Right justified
The value can o	contain a	decima	l point.	Only XML forma	t accepts 3	decimal place values.
Isotope Weight	5d	33	45	Num(13,2)	\checkmark^{28}	Right justified
				The v	alue can co	ontain a decimal point.
Project Number ²⁹	5e	46	55	Char(10)		Left justified
Scrap Program	5f	56	56	Char(1)		Leave blank
Weight Percent Isotope/Parts Per Million	n 5g	61	66	Num(6,4) 30		Right justified
The value can o	contain a	decima	l point.	Only XML forma	t accepts 3	decimal place values.
Owner Code	5h	68	68	Char(1)		
Process Code	5q	74	74	Char(1)	\checkmark	See Appendix A.
Sequence Number Code ³¹	5i	75	80	Num(6)	\checkmark	Right justified

Note: If <u>both</u> the element weight and isotope weight are zero, there is no need to submit a data line for data code 1 or 2.

²⁷ For total lines, this field will always contain "899"

²⁸ Element or Isotope weight may be essential to successful file import depending on the specified material type.

²⁹ Project numbers are reported only for government owned material.

³⁰ Weight Percent Isotope/Parts Per Million is reported as a percentage except when the material type is 70 (total uranium enriched in U-233), which is reported using 6 numeric digits and converted to decimal form by NMMSS.

³¹ Sequence number should begin at one for the entire inventory or each material type group (Generic MT 20 includes MT 21 – 39) and should be consecutively numbered including the total line (composition code 899).

Vi	Visual representations of field placement in 80 Column file formatting physical inventory listing header																																								
in	information.																																								
73	ЗНе	adei	rInf	огп	natio	on (C	Data	а Со	ode	1)																															
	1 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39 4	10		
DO	Inv	Re	por	t D	ate				RIS				ΜТ		Cor	mp	Coc	de					Ele	mer	nt V	Veig	ht				П					Isot	ор	e W	ei		
		41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	30
		IP.	Mb	01	ΛP	Mm	Ε	С																											PC	Se	que	enc	e #		\neg

Physical Inventory Listing Detail Information (Data Code 2)

Field Description	<u>742C</u>		umn File t Positio			
		<u>Begin</u>	<u>End</u>	<u>Type</u>	Essential	<u>Note</u>
Data Code	-	1	1	Num(1)	\checkmark	Value is 2
Inventory Report Date	3	2	9	Date	\checkmark	MMDDYYYY
RIS	2	10	13	Char(4)	\checkmark	Left justified
Material Type	5a	14	15	Char(2)	\checkmark	Left justified
Composition-Facility Code ³²	5b	16	19	Char(4)	\checkmark	Left justified
Batch Identification	5j	20	35	Char(16)		Left justified All Caps
Number of Items	5k	36	39	Num(4)		Right justified
Key Measurement Point	5l	40	41	Char(2)		Left justified
Measurement Basis	5m	42	42	Char(1)		
Other Measurement Point	5m	43	44	Char(2)		Left justified
Measurement Method	5m	45	45	Char(1)		
Entry Status	5n	46	46	Char(1)		
Process Code	5q	74	74	Char(1)	\checkmark	See Appendix A.
Sequence Number ³³	5i	76	80	Num(5)	\checkmark	Right justified

Note: If both the element weight and isotope weight are zero, there is no need to submit a data line for data code 1 or 2.

F	Visual representation of field placement in 80 Column file formatting of inventory detail information.																																								
	733A Detail Information (Data Code 2) [sites selected for IAEA]																																								
	1 :	2 :	3	4	5	6 7	· 8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	1 35	36	37	38	39	40		
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 9 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 DC Inv Report Date RIS MT Comp Code Batch Identification # Items KMI																																								
		41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79 80	1
	1P Mb OMP Mm E C PQ Sequence #																																								

 For total lines, this field will always contain "899"
 Sequence number should begin at one for the entire inventory or each material type and the pairs of lines (Data Type Code 1 and 2) should be consecutively numbered including the total line (composition code 899). The sequence number for a Data Type Code 1 line should be coded for the corresponding Data Type Code 2 line.

Physical Inventory Listing Additional Information (Data Code 3)

Field Description	<u>742C</u>	80 Colu Format Positio		2		
		<u>Begin</u>	<u>End</u>	<u>Type</u>	Essential	<u>Note</u>
Data Code	-	1	1	Num(1)	\checkmark	Value is 1
Inventory Report Date	3	2	9	Date	\checkmark	MMDDYYYY
RIS	2	10	13	Char(4)	\checkmark	Left justified
Material Type Code	5a	14	15	Char(2)	\checkmark	Left justified
Composition-Facility Code ³⁴	5b	16	19	Char(4)	\checkmark	Left justified
Location of Item	50	20	50	Char(30)		
Site MBA	5p	51	73	Char(23)		

Visual representation of field placement in 80 Column file formatting of inventory detail information.

733A Detail Information (Data Co	de 3) [Locatio	on & Site MBA]	_	-
1 2 3 4 5 6 7 8 9	10 11 12 13	14 15 16 17	18 19 20 21 22 23 24 25 26 27 26	3 29 30 31 32 33 34 35 36 37 38 39 40
DC Inv Report Date	RIS	MT Comp	Code	Location
41 42 43 44 45 46 47 48 49	50 51 52 53	54 55 56 57		8 69 70 71 72 73 74 75 76 77 78 79 80

 $^{^{34}}$ For total lines, this field will always contain "899"

4. MATERIAL BALANCE DATA

4.1. Requirements for DOE/NRC Form 742

4.1.1. XML File Formatting

An example of material balance submission in XML format is shown below. Additional examples are shown in Appendix B along with the corresponding DOE/NRC form.

<MATERIALBALANCEREPORT>

<MATERIALBALANCE RIS=" ABC " STARTDATE="02/01/2002" ENDDATE="02/28/2002">

<CONCISENOTE LINENUMBER="1" ENTRYREFERENCE="WHOLE REPORT" TEXTOFCONCISENOTE="NOTE TEXT GOES HERE.">

</CONCISENOTE>

<MATERIAL processcode="A" seqencenumber="1" datacode="3" matertalbalancecategory="09">
 <CONCISENOTE LINENUMBER="1" ENTRYREFERENCE="WHOLE REPORT" TEXTOFCONCISENOTE="NOTE TEXT
GOES HERE.">

</CONCISENOTE>

<ELEMENT ELEMENTWEIGHT="100.00" TYPEINVENTORYCHANGE="PB" OTHERRIS="" ENTRYSTATUS="N" UNIT="">

<ISOTOPE MATERIALTYPE="10" ISOTOPEWEIGHT="10.00" UNIT="">

</ISOTOPE>

</ELEMENT>

</MATERIAL>

</MATERIALBALANCE>

</MATERIALBALANCEREPORT>

Root Tag <MATERIALBALANCEREPORT>

Header Information < MATERIAL BALANCE>

Field Description	<u>742</u>	XML Attribute	<u>Type</u>	Essential	<u>Note</u>
RIS	3	RIS	Char(4)	\checkmark	
Report Period From	4	STARTDATE	Date	\checkmark	MM/DD/YYYY
Report Period To	4	ENDDATE	Date	\checkmark	MM/DD/YYYY

Concise Note Information Attached to Header < CONCISENOTE>

Note: if concise note information is not reported, there is no need to include a Concise Note section.

Field Description	<u>740M</u>	XML Attribute	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Process Code	5e	PROCESSCODE	Char(1)	✓	See Appendix A.
Line Number	7a	LINENUMBER	Num(2)		
Entry Reference	7b	ENTRYREFERENCE	Char(20)		
Concise Note Text	7c	TEXTOFCONCISENOTE	Char(60)		

Detail Information < Material>

Note: If both the element weight and isotope weight are zero, there is no need to include a Material section.

Field Description	<u>742</u>	XML Attribute	<u>Type</u>	Essential	<u>Note</u>
Process Code	Sec. A & E PC	PROCESSCODE	Char(1)	✓	See Appendix A.
Sequence Number ³⁵	Sec. A & E	SEQUENCENUMBER	Num(6)	\checkmark	

³⁵ Sequence number should begin at one for the entire material balance per material type and should be consecutively numbered.

	SEQ				
Data Code	-	DATACODE	Num(1)	✓	Value is 3 (Receipts) or 4 (Removals)
Material Balance Category ³⁶	Sec A Row # Sec B column 1	MATERIALBALANCECA [*]	TEGORY Char(2)		Right justified Zero fill blanks

Concise Note Information Attached to Material (Item) < CONCISENOTE>

Note: if concise note information is not reported, there is no need to include a Concise Note section.

Field Description	<u>740M</u>	XML Attribute	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Process Code	5e	PROCESSCODE	Char(1)	\checkmark	See Appendix A.
Line Number	7a	LINENUMBER	Num(2)		
Entry Reference	7b	ENTRYREFERENCE	Char(20)		
Concise Note Text	7c	TEXTOFCONCISENOTE	Char(60)		

Detail Information <ELEMENT>

Field Description	<u>742</u>	XML Attribute	<u>Type</u>	Essential Note
Element Weight ³⁷	Sec A column A Sec B Column 2	ELEMENTWEIGHT	Num(15,3)	√38

Detail Information <ISOTOPE>

Field Description	<u>742</u>	XML Attribute	<u>Type</u>	Essential Note
Material Type	5	MATERIALTYPE	Char(2)	
Isotope Weight ³⁷	Sec A column B Sec B Column 3	ISOTOPEWEIGHT	Num(15,3)	√38
Unit of Measure	-	UNIT	Value m Char(4)	nust include a decimal point. List tag only

³⁶ Call the NMMSS or go to NMMSS.com for the latest list of Material Balance Categories codes related to Obligations (Section B)

³⁷ The RIS must attain authorization from NRC to report to the 3rd decimal. Three decimal reporting is only allowed when reporting Source Material.

³⁸ Element or Isotope weight may be essential to successful file import depending on the specified material type.

4.1.2. 80 Column File Formatting

Examples of material balance submissions in an 80 column file format document are shown below. For corresponding 742 forms showing these examples refer to Appendix B. Note that gridlines and the numbering structure at the top are not a part of the data submission.

					Т	Τ	Τ	1										2							T	T	(1)		Γ	Τ		Τ					4	Т	Т	Π					4	5	Т	Т	Т						6										7		T	Т	T	Τ	Τ	Τ	T	T		8
1	2	3	4	5 6	6 7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8 9	9 0	1	2	3	4	- 5	6	7	8	9	0	1 2	2 3	4	5	6	7	8	9 (0 1	1 2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	1 2	2 3	3 4	5	6	7	8	8	9	0
3	Α	В	C	1	2 (0	1	0	1	2	0	0	2	1	2	3	1	2	0	0	2			Т	Т	Т	1	1	2	0	7	0	0				Т	Т	Т	1	1	1	2	0	0 1	1 1) E	F			Г	N		П	П	Т	П								Τ	Т	Т	1	١ (0	0	0)	0	1
3	Α	В	C	1	2 (0	1	0	1	2	0	0	2	1	2	3	1	2	0	0	2			Т		T	Т	Т	Т	3	8	0	0						Т	Т		2	5	0	0 3	3 0	0	3 H	H	Г			N													T	T	Т	1	1 0	0	0	()	0	2
4	Α	В	C	1	2 (0	1	0	1	2	0	0	2	1	2	3	1	2	0	0	2			T		T	T	Т	Т	Т	2	0	0						Т	Т			1	0	0 4	1 6	6	Т	Т	Г			N				T									T	T	T	1	١ (0	0	0)	0	3
4	Α	В	C	1	2 (0	1	0	1	2	0	0	2	1	2	3	1	2	0	0	2			T		T	1	1	2	4	3	0	0					Т	Т	1	1	3	6	0	0 8	3 1	ı	Т	Т	Г			N													T	T	Т	1	١ (0	0	0)	0	4

Material Balance Report Detail Information (Data Code 3 & 4)

Field Description	<u>742</u>	80 Colu Format	<u>mn File</u> Position			
		<u>Begin</u>	<u>End</u>	<u>Type</u>	Essential	<u>Note</u>
Data Code	-	1	1	Num(1)	\checkmark	Value is 3 (Receipts) or 4 (Removals)
RIS	3	2	5	Char(4)	\checkmark	Left justified
Material Type	5	6	7	Char(2)	\checkmark	Left justified
Report Period From	4	8	15	Date	\checkmark	MMDDYYYY
Report Period To	4	16	23	Date	\checkmark	MMDDYYYY
Element Weight	Sec A column A Sec B Column 2	24	36	Num(13,2)	√ ³⁹	Right justified
The Isotope Weight	value can co Sec A column B Sec B Column 3	ontain a d	decimal _l 49	ooint. Only XM	IL format ac √ ³⁹	ccepts 3 decimal place values. Right justified
The		ontain a c	lecimal _l	ooint. Only XIV	IL format ac	ccepts 3 decimal place values.
Material Balance Category ⁴⁰	Sec A Row # Sec B column 1	50	51	Char(2)		Right justified Zero fill blanks
Other RIS	line 11,30, 42,43, & 51	52	55	Char(4)		Left justified
Inventory Change Type (ICT)	line 22 & 71	56 50	57	Char(2)		Left justified
Entry Status	Sec A & B	58	58	Char(1)	./	
Process Code	PC PC	74	74	Char(1)	V	See Appendix A.
Sequence Number ⁴¹	Sec A & B SEQ	75	80	Num(6)	\checkmark	Right justified

Note: If <u>both</u> the element weight and isotope weight are zero, there is no need to submit a data line for data code 1.

³⁹ Element or Isotope weight may be essential to successful file import depending on the specified material type.

⁴⁰ Call the NMMSS or go to NMMSS.com for the latest list of Material Balance Categories codes related to Obligations (Section B)

⁴¹ Sequence number should begin at one for the entire material balance per material type and should be consecutively numbered.

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Visua	ıl r	er	res	ser	ıtat	ion	of	fie	ld	pla	ace	me	ent	in	80	Co	luı	mr	F	ile	fo	rm	att	ing	g of	m	ate	ria	al l	oal	an	ce	de	tai	l in	for	ma	atio	n.	٦
Materi	al E	3ala	ance	Re	port	Det	tail Ir	nfori	mat	ion	(Da	ta C	ode	38	(4)																									
1 2	3	7	5	1	7	8	9	10	11	12	13	14	15	16	17	18	19 2	20	21 :	22	23	24	25	26	27 2	28 :	29 (30	31 :	32 :	33	34	35	36	37	38	39 4	ю		
DC RIS	3			Ν	1T	Re	port	Per	riod	Fro	m			Rep	ort	Peri	od.	То								Ele	mer	it W	eigl	nt								_		
	4	1 4	2 4:	3 4	4 45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79 8	0
	ŀ	sot	ope	We	eight					ME	3C	Oth	ner F	RIS		ICT		Ε	С															PC	Se	que	ence	e #		

APPENDIX A PROCESS CODE

PROCESS CODE

DEFINITION:

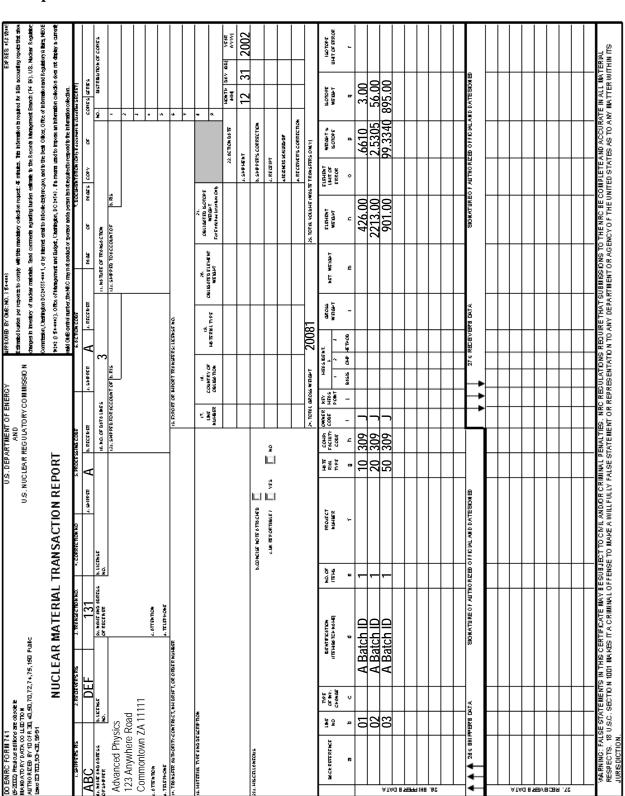
The process code identifies the type of system action to be taken for the data being reported as follows:

- 1. Process code A is used to signify the initial submittal of data. Use process code C to replacement a data set already submitted to the NMMSS;
- 2. Process code C is used to signify the replacement of previously reported data. Its use is restricted to the replacement of data in the same reporting month;
- 3. Process code D applies when the facility intends the deletion of previously reported data. Its use is also restricted to applying only to data in the same reporting month; and
- 4. Process code Z is used in conjunction with action code D by the receiver to accept a shipper's change without the receiver having to retype the detailed lines.

SPECIAL NOTE: If replacement or deletion of data is desired, it is suggested that the reporting facility ensures that the accounting month to be affected is still "open" (being processed by the NMMSS) by calling the appropriate NMMSS contact since these actions are restricted and based on specified accounting periods.

APPENDIX B EXAMPLES

Example 1



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80 Column import:

		Т	П	Т	1		П	Т	Т		П	1	2			Т	Т	Т	Т		3		П	Т	П		Т	Т	4	П	Т		П	Т			5		П						6	Т							7							
2 3	4	5 6	7 8	3 9	0 1	2	3	4 5	6	7	8	9 () 1	2	3	4 5	5 (6 7	8	9	0	1	2	3 4	5	6	7 8	3 9	0	1	2 3	4	5	6 7	8	9	0	1 2	2 3	4	5	6 7	7 8	9	0	1 2	3	4	5	6	7 8	9	0	1 2	2 3	4	5	6	8	9
ВС	H	DE	F	0	0 0	1	3	1	Α		Α	1 () 3	H	Н	+	+	+	+	H	H	Н	+	+	H	+	+	+	Н	+	+	H	H	+	H	Н	H	+	+	Н	+	+	+	Н	+	+	H	Н	+	+	+	H	1	2 3	3 1	2	0	0 2	2	H
ВС		DΕ	F	0	0 0	1	3	1	Α		Α	2 (1	Т		Α	ı	B A	١T	C	Н	П	L	D	\Box	T	T	T	П	T	1	П	П	Ť	T		П	T	T	1	0	3 (9		Τ,	J	Т		\exists		T	T	П	T	T	T		T	T	Г
ВС		DΕ	F	0	0 0	1	3	1	Д		A	5 (1				T					П			П			Т	П				П			4	2	6 0	0				T			6 6	1	0					П		3	0	0			
ВС		DΕ	F	0	0 0	1	3	1	Α		Α	2 () 2			Α	I	B A	١T	C	Н	П	П	D	П			Т	П		1								T	2	0	3 (9		١,	J							П		T					Г
ВС		DΕ	F	0	0 0	1	3	1	Α		A	5 () 2				Ť											Т	П		T				2	2	1	3 0	0				T		2	5 3	0	5					П	E	6	0	0			
ВС		DΕ	F	0	0 0	1	3	1	Α		Α	2 (3			Α	I	B A	١T	C	Н	П	П	D	П			Т	П		1	П			T				T	5	0	3 (9		١,	J							П	T	T	T		T		Г
ВС		DΕ	F	0	0 0	1	3	1	Α		A	5 (3			T	Ť		Т			П		T	П	T	T	Т	П		T	Т	П		T	9	0	1 0	0 (T	T	9	9	3 3	4	0				Т		8 9	5	0	0	T	Т	
ВС		DΕ	F	0	0 0	1	3	1	Д		Д	4	T	Т		T	T	Т	T	Т	П				П		T	Т	П		Ť	Т	П		T			T	T	П		T	T			2	0	0	8	1	Т	Т	П	T	T	T		T	T	
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<TRANSACTIONS>
 <SHIPMENT SHIPPERRIS="ABC" RECEIVERRIS="DEF" TRANSFERNUMBER="131"</p>
CORRECTION="" PROCESSCODE="A" ACTIONCODE="A" NUMBEROFLINES="3"
NATUREOFTRANSACTION="" SHIPPEDFORRIS="" SHIPPEDTORIS="" TRANSFERAUTHORITY=""
UKFLAG="" ACTIONDATE="12/31/2002" LICENSENUMBER="" TOTALGROSSWEIGHT="20081"
TOTALVOLUME="" SEALEDSOURCE="" TOTRANSFERAUTHORITY="">
  <MATERIAL PROJECT="" COEILINENUMBER="309" TYPEINVENTORYCHANGE="" OWNER="J"
KEYMEASUREPOINT="" MEASUREBASIS="" OTHERMEASUREPOINT="" MEASUREMETHOD=""
GROSSWEIGHT="" NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER="
BACKREFLINENUMBER="" LINENUMBER="1" BATCH="A BATCH ID" NUMBEROFITEMS="1">
  <ELEMENT ELEMENTWEIGHT="426.00" ELEMENTLOE="" UNIT="" >
   <ISOTOPE MATERIALTYPE="10" WEIGHTPERCENT="0.6610" ISOTOPEWEIGHT="3.00"
ISOTOPELOE="" UNIT="" >
   </ISOTOPE>
  </ELEMENT>
  </MATERIAL>
  <MATERIAL PROJECT="" COEILINENUMBER="309" TYPEINVENTORYCHANGE="" OWNER="J"
KEYMEASUREPOINT="" MEASUREBASIS="" OTHERMEASUREPOINT="" MEASUREMETHOD=""
GROSSWEIGHT="" NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
BACKREFLINENUMBER="" LINENUMBER="2" BATCH="A BATCH ID" NUMBEROFITEMS="1">
   <ELEMENT ELEMENTWEIGHT="2213.00" ELEMENTLOE="" UNIT="" >
   <ISOTOPE MATERIALTYPE="20" WEIGHTPERCENT="2.5305" ISOTOPEWEIGHT="56.00"
ISOTOPELOE="" UNIT="" >
   </ISOTOPE>
   </ELEMENT>
  </MATERIAL>
  <MATERIAL PROJECT="" COEILINENUMBER="309" TYPEINVENTORYCHANGE="" OWNER="J"
KEYMEASUREPOINT="" MEASUREBASIS="" OTHERMEASUREPOINT="" MEASUREMETHOD=""
GROSSWEIGHT="" NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
BACKREFLINENUMBER="" LINENUMBER="3" BATCH="A BATCH ID" NUMBEROFITEMS="1">
   <ELEMENT ELEMENTWEIGHT="901.00" ELEMENTLOE="" UNIT="" >
   <ISOTOPE MATERIALTYPE="50" WEIGHTPERCENT="99.3340" ISOTOPEWEIGHT="895.00"
ISOTOPELOE="" UNIT="" >
   </ISOTOPE>
   </ELEMENT>
  </MATERIAL>
 </SHIPMENT>
</TRANSACTIONS>
```

Example 2

NUCLEAR MATERIAL Transference	DO ENIRO FORM 741 (5-202) Peutos edillors:	are obsole in				U.S. DEP	U.S. DEPARTMENT OF ENERGY AND	OF ENERG		APPROVED BY ONE: NO. 3 for ens.	*	with the mandatory collection could be a second to the manual of the second to the second to the second the manual of the second to the secon	edon requet: 4	meter. Te bik	manula requir	ed for RBA Boom	EXPRES 153 Miles Interpretation
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No.	ABC	田	131		25.00		B. RECEIVER) BROWER (J. RECE			P8.045 S	30 4,400		2002 2000	
Figure F	A. No he on o design	h. LEFFER	SU, NOME OND SORESS OF RECEIVER	b. UCDASE NO.			IS NO. OF DET	SJM19	4		11. No TURE OF	т тенеестон			Ý	DISTREBUT	DISTRIBUTION OF CORES
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A CONTROL IN SECTION	123 Anywhere	Road 7 11111													^ -		
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The constraints The constr							<u> </u>	+				-		22. 6CTION D6TE	# 90°	HONTE DEV	14444 1934 199
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ISOTOPELOE="" UNIT="" >
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Example 3a

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Example 3b

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Example 3c

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Example 3d

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Example 3 a, b, c, d Submission of Multiple Transactions including Concise Notes
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XML format:

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TOTRANSFERAUTHORITY="">

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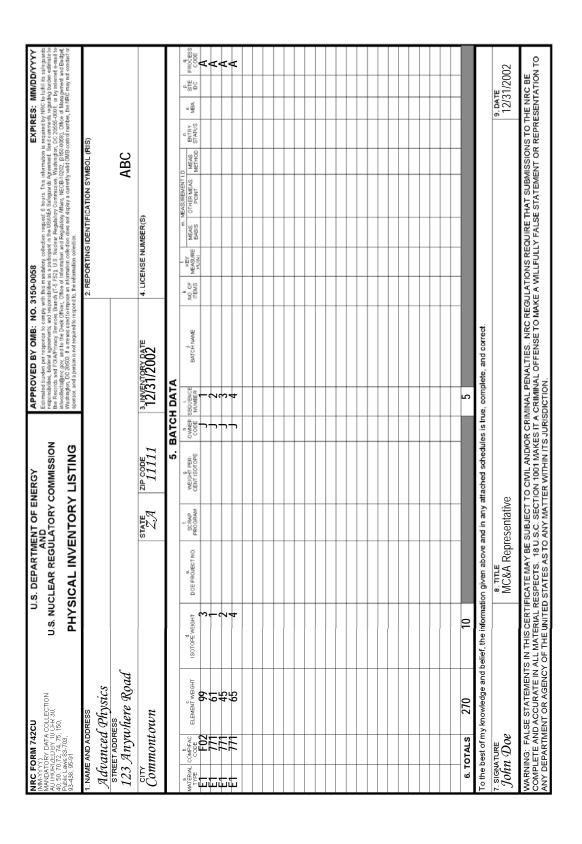
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</CONCISENOTE>

<OBLIGATION>

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TOTALVOLUME="" SEALEDSOURCE="" TOTRANSFERAUTHORITY="">
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</TRANSACTIONS>
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Example 4 Physical Inventory Listing



Page 39

80 Column format:

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</PHYSICALINVENTORY>
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Example 5 Physical Inventory Listing for selected IAEA facilities.

MÄNIDATORY DATA COLLECTION AUT HONGLED BY 10 CH? 30, 40, 50, 770,72, 74, 75, 150, Public Laws 83-703, 93-438, 95-91	DLLECTION FHX 30, 50,	U.S. NU PHYS	AND U.S. NUCLEAR REGULATORY COMMISSION PHYSICAL INVENTORY LISTING	UCLEAR REGULATORY COMMIS	COMMISSION		Estimated to responsibility the Record infootlects Washington sponsor, and	APP FROVED B1 CARES. INC. \$130-006. APP FROVED B1 CARES. INC. \$130-006. BELInniad by bloop per response to care by while his manidatory coloration request is beaut. This information is nequired by NRC to justifie as singular transposed by the request and response thinks as produced in 10-844. Existing dependent d	with this many ponsibilities as anch (T-5 F52 91, Office of Info pose an information and to, the information	atlory collectivity to a participant in). U.S. Nuclea ormation and f nation collection nation collection	n request 6 hour me USAREA Safe Regulatory Com egulatory Affairs, does not display a	. This informatio transfer Agreement nission, Washing VEOB-10202, (31 currently valid OM	EAF on is required 1. Send comm gron, DC 206 150-0068), Of AB control nur	KES: IN 1 by NRC to ents regardit 85-0001, or 15ce of Mana nber, the NR	EXPIRES: MM/DD/YYYY required by NRC to fulfill its sale guard countents regarding burden estimate to C 20556-0001, or by internet e-mail it ESS, Office of Management and Budget mird number, the NRC may not conduct or
1. NAME AND ADDRESS Advanced Physics	tess Physics								2. REP	ORTINGIC	2. REPORTING IDENTIFICATION SYMBOL (RIS)	NSYMBOL	(RIS)		
STREET ADDRESS 123 Anywhere Road	ss here Road											ABC			
city Commontown	าซก			STATE ZA	ZIP CODE 11111		3. INVEN	3. INVENTORY DATE 12/31/2002	4. LICE	4. LICENSE NUMBER(S)	ER(S)				
					5. 1	BATCH DATA	DATA					l	l	l	l
E3 771 E3	155 268	112 1159	DOE PROJECT NO.	PROGRAM	Charles Per-	STANCON OF THE PROPERTY OF THE	NAMES SENDING CE	Batch0434 Batch0434	10 10 10 10 10 10 10 10 10 10 10 10 10 1	02 02 02	N N POINT NEW PROPERTY OF THE WEB-KS.	MEH		W	D C C C C C C C C C C C C C C C C C C C
6. TOTALS	423				1		2								
I o the best of my knowledge and bellet, the $ au$ signature . John Doe	Knowieuge and		Information given above and in any attached schedules is rule, complete, and correct 8. TITLE MC&A Representative	resentativ	Rached schedu	105 IS IT OF	id Eoo	ete, and correct.						9. DATE	.DATE 12/31/2002

80 Column format:

	Τ							1								2							3							4								5								6							7	7							8
1	2 3	4	5	6	7	8	9	0	1 2	3	4	5 (6 7	7 8	9	0 1	1 2	3	4 5	6	7	8 9	0	1	2 3	4	5	6 7	8	9 0	1	2	3 4	5	6	7 8	9	0	1 2	3	4	5 6	7	8	9	0 1	2	3	4	5 6	7	8	9 0	1	2	3 4	5	6	7	8 9) (
Т	Т	Г					П	Т	Т			Т	Τ	Т		Т	Т		Т	Т		Т		П	Т	П	Т	Т	П	Т		П	Т	Г	П	Т	Т	П	Т	П	П	Τ	Т		Т	Т	П			Т	Т		Т	Т	П	Τ			Т	Τ	Τ
1	1 2	3	1	2	0	0	2	ΑI	ВС		Е	3 7	7	1		T	T		T		•	1 5	5	0	0	П	T	Т	П		1	1	2 (0	П	T	Т	П	T	П	П		Т		T		П			T	Т	J	T	Т	П	Α	0	0	0	0 0) 1
2	1 2	3	1	2	0	0	2	ΑI	ВС		Е	3 7	7	1		В	١T	С	H (4	2 2	2	Т	П	Т	П		1 0	П	0	2	N	T	Г	N	T	Т	П	Т	П	П		Т		T		П			Т	Т	П	T	Т	П	Α	0	0	0	0 0) 1
1	1 2	3	1	2	0	0	2	ΑI	ВС		Е	3 7	7 7	1		T	T				1	2 6	8	0	0	П			П		1	5	9 0	0	П	T	T	П	T	Т	П		Т		T		П			T	T	J	T	Т	П	Δ	0	0	0	0 0) 2
2	1 2	3	1	2	0	0	2	ΑI	ВС		Е	3 7	7 7	1		В	١T	С	Н (4	3	4	T		T	П		1 0	П	0	2	N	T	Т	N	T	T	П	T	Т	П		Т		T		П			T		П	T		П	Α	0	0	0	0 0) 7
1	1 2	3	1	2	0	0	2	ΔГ	вС		2	0 8	8 9	9	П	\top	Ť	П	\top	T	4	1 2	2 3	0	0	П	\top	Т	П		2	7	1 0	0	П			П	\top		П		\top	П	T		П	П		T	T	П	\top	Т	П	Δ	0	0	0	0 0) 3

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</PHYSICALINVENTORY>
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Example 6a Material Balance Report

(MM-YY MANDA COLLEC AUTHO 10 CFR 74, 75, 83-703, 1. NAM	TORY DADOTHON PIZZED BY 30, 40, 51 150, Publi 93-438, 9 E AND Al	TA), 70, 7 ; Laws 5-91 MA DDRES	U.S. NUCLEAR REGULATORY COMMISSION TERIAL BALANCE REPORT	Estimated burden hours. Reported I back to industry. FOIA/Privacy Set Washington, DC the Desk Officer (3150-0004), Offic used to Impose a control number, it to respond to, the	essons learned are inc Send comments rega rvices Branch (T-5 F5 20555-0001, or by inter, , Office of Informatio ce of Management and an information collection NRC may not condu- information collection.	ply with this mandatory collection request: 5 corporated into the licensing process and fed arding burden estimate to the Records and 52). U.S. Nuclear Regulatory Commission, ernet e-mail to infocollects@nrc.gov, and to no and Regulatory Affairs. NEOB-10202, Budget, Washington, DC 20503. If a means on does not display a currently valid OMB uct or sponsor, and a person is not required SYMBOL (RIS) 3. REPORTING IDENTIFICATION SYMBOL (RIS) ABC
			,	01/01/2002	12/31/2002	50
SEC.	TION	A	MATERIAL ACC	OUNTABILIT	ГҮ	
PC	SEQ				A. ELEMENT W	VEIGHT B. ISOTOPE WEIGHT
Ä	1		BEGINNING INVENTORY U.S. GOVT-OWNED BEGINNING INVENTORY NOT U.S. GOVT-OWNED RECEIPTS	NED	0.00	0.00
Α	2	11.	PROCUREMENT FROM DOE RIS FROM: DEF		11207.00	1112.00
		14. 15. 16. 21. 22.	PROCUREMENT FOR THE ACCOUNT OF DOE DOD RETURNS USE A DOD RETURNS USE B DOD RETURNS OTHER USES PRODUCTION FROM OTHER MATERIALS a. ICT b. ICT c. ICT RECEIPTS REPORTED TO DOE/NRC ON DOE/NRC 741 (not listed FROM: RIS			
Α	3		GHI		38.00	25.00
		34.	RECEIPTS MISC			
		37.	PROCUREMENT BY OTHERS	_		
			DONATED MATERIAL FROM U.S. GOVT TO O			
		_	DONATED MATERIAL FROM OTHERS TO U.S.	GOVT		
		40.	TOTAL (Lines 8-39) REMOVALS			
		41	EXPENDED IN SPACE PROGRAMS			
			SALES TO U.S. GOVT RIS TO: RIS TO:			
		43.	SALES TO OTHERS FOR THE ACCOUNT OF U.S. GOVT RIS			
		44.	DOD USE A			
Α	4	46. 47.	DOD USE B DOD OTHER USES EXPENDED IN U.S. GOVT TESTS ROUTINE TESTS		2.00	1.00
			SHIPPER RECEIVER DIFFERENCE			
			SHIPMENTS REPORTED TO NRC/DOE ON NRC/DOE 741 (not li	isted elsewhere)		
			TO: RIS			
NRCEC	DM 742	(MMLY	YYY) (PREVIOUS EDITIONS ARE OBSOLETE)			PRINTED ON RECYCLED PAPER

SEC	TION	A (Continued)	MATERIAL ACCOUNTABIL	ITY	
PC	SEQ			A. ELEMENT WEIGHT	B. ISOTOPE WEIGHT
		54. SHIPMENTS MISC			
		58. DONATED MATERIAL TO U	J.S. GOVT BY OTHERS		
		59. DONATED MATERIAL TO 0	OTHERS BY U.S. GOVT		
		65. ROUNDING ADJUSTMENT			
		71. DEGRADATION TO OTHER MATI	ERIALS a. ICT		
			b. ICT		
		72. DECAY			
		73. FISSION AND TRANSMUTAT	ION		
		74. NORMAL OPERATIONAL LO	SSES/MEASURED DISCARDS		
		75. ACCIDENTAL LOSSES			
		76. APPROVED WRITE-OFFS			
		77. INVENTORY DIFFERENCE			
		80. ENDING INVENTORY U.S.	COVT OWNED		
_	5	81. ENDING INVENTORY NOT		11040	1107
_A		82. TOTAL (lines 41-81)	U.S. GOVI OVVINED	11243	1136
		83. BIAS ADJUSTMENT			
SEC	TION		FOREIGN OBLIGATIONS		
PC	SEQ	1. COUNTRY C		2. ELEMENT WEIGHT	3. ISOTOPE WEIGHT
PC	SEQ	I. COUNTRY C	F OBLIGATION	Z. ELEIVIENT VVEIGHT	3. ISOTOPE VVEIGHT
		4. TOTAL	. WEIGHT		
SEC	TION	c	CERTIFICATION		
To th	ne best	of my knowledge and belief, the info	ormation given above and in any at	tached schedules is true, co	mplete, and correct.
SIGNA	TURE (Se	e instructions for provisions on confidentiality)	TITLE		DATE
	hn D		MC&A Representative		12/31/2002
REQU MAKE	JIRE TH ES IT A	FALSE STATEMENTS IN THIS CERTIF IAT SUBMISSIONS TO THE NRC BE C CRIMINAL OFFENSE TO MAKE A WILI IED STATES AS TO ANY MATTER WIT	OMPLETE AND ACCURATE IN ALL N FULLY FALSE STATEMENT OR REF	MATERIAL RESPECTS. 18 U.S	S.C. SECTION 1001

Example 6b Material Balance Report

1. NAM Adv. 1. NAM 1. NAM 1. NAM 1. NAM 1. NAM 1. NAM 1. NAM 1. NAM 1. NAM	AYY) CTION ORIZED BY 30, 40, 5 150, Publi , 93-438, 9 ME AND A anced Anywinmonto	MATERIAL BALANCE REPORT DDRESS Physics there Road own, ZA 11111	Estimated burder hours. Reported back to industry. FOIA/Privacy Se Washington, DC the Desk Office (3150-0004), Offiused to impose a control number, it to respond to, the 2. LICENSE NUMBER 4. REPORT PEIFROM 01/01/2002	an information collection. ER(S) RIOD (MM/DD/YYYY) 12/31/2002	3. REPORTIN SYMBOL (ZZZ 5. MATERIA (Submit s	
SEC	TION	A MATERIAL AC	COUNTABILI	ΓY		
PC	SEQ			A. ELEMENT W	/EIGHT	B. ISOTOPE WEIGHT
A	1	BEGINNING INVENTORY U.S. GOVT-OWNED BEGINNING INVENTORY NOT U.S. GOVT-OWNED RECEIPTS 11. PROCUREMENT FROM DOE RIS FROM:		800.00		150.00
A	2	13. PROCUREMENT FOR THE ACCOUNT OF DO 14. DOD RETURNS USE A 15. DOD RETURNS USE B 16. DOD RETURNS OTHER USES 21. PRODUCTION 22. FROM OTHER MATERIALS a. ICT ED		74.00		14.00
		34. RECEIPTS MISC 37. PROCUREMENT BY OTHERS 38. DONATED MATERIAL FROM U.S. GOVT TO 0. 39. DONATED MATERIAL FROM OTHERS TO U. 40. TOTAL (Lines 8-39) REMOVALS				
		41. EXPENDED IN SPACE PROGRAMS 42. SALES TO U.S. GOVT RIS TO:				
		44. DOD USE A 45. DOD USE B 46. DOD OTHER USES 47. EXPENDED IN U.S. GOVT TESTS 48. ROUTINE TESTS 49. SHIPPER RECEIVER DIFFERENCE 51. SHIPMENTS REPORTED TO NRC/DOE ON NRC/DOE 741 (no TO: RIS				

SEC	TION	A (Continued)	MATERIAL ACCOUNTABILI	TY	
PC	SEQ			A. ELEMENT WEIGHT	B. ISOTOPE WEIGHT
		54. SHIPMENTS MISC			
		58. DONATED MATERIAL TO	U.S. GOVT BY OTHERS		
		59. DONATED MATERIAL TO	OTHERS BY U.S. GOVT		
		65. ROUNDING ADJUSTMENT			
		71. DEGRADATION TO OTHER MAT	rerials a ICT		
			b. ICT		
		72. DECAY			
		73. FISSION AND TRANSMUTA			
		74. NORMAL OPERATIONAL LO	DSSES/MEASURED DISCARDS		
		75. ACCIDENTAL LOSSES			
		76. APPROVED WRITE-OFFS			
		77. INVENTORY DIFFERENCE			
	^	80. ENDING INVENTORY U.S		074	4/4
Α	3	81. ENDING INVENTORY NO	I U.S. GOVT OWNED	874	164
		82. TOTAL (lines 41-81)			
		83. BIAS ADJUSTMENT			
	TION		FOREIGN OBLIGATIONS		
PC	SEQ	1. COUNTRY	OF OBLIGATION	2. ELEMENT WEIGHT	3. ISOTOPE WEIGHT
Α_	4	CANAI	DA (32)	320	20
		4. TOTA	L WEIGHT		
SEC	TION	С	CERTIFICATION		
To th	e best	of my knowledge and belief, the in	formation given above and in any att	ached schedules is true, co	mplete, and correct.
SIGNA	TURE (Se	e instructions for provisions on confidentiality)	TITLE		DATE
Tok	n Do	ne e	MC&A Representative		12/31/2002
REQI MAKI	JIRE TH	AT SUBMISSIONS TO THE NRC BE	FICATE MAY BE SUBJECT TO CIVIL, A COMPLETE AND ACCURATE IN ALL M. LLFULLY FALSE STATEMENT OR REPI ITHIN ITS. II IRISDICTION	ATERIAL RESPECTS. 18 U.S	S.C. SECTION 1001

80 Column format:

</MATERIAL >

		Т			Т	1		Т	Т						2				Τ	Т				3	Т	Г				Т		4		Т	Т	Т				4	5					Τ			6	Т							7			Т			П		Г	8
1 2	3	4 5	6	7 8	9	0	1 2	2 3	4	5	6	7	8	9	0	1	2	3 4	4 5	6	7	8	9	0 1	2	3	4	5	6 7	8	9	0	1	2 3	3 4	5	6	7	8	9 (0 1	1 2	3	4	5 (3 7	8	9	0 1	1 2	3	4	5	6 7	8	9	0	1	2	3 4	1 5	6	7	8	9	0
3 A	В	С	5	0 0	1	0	1 2	2 0	0	2	1	2	3	1	2	0	0	2	t	H	H		١.	1 1	2	0	7	0	0	H	H		+	+	1	1	1	2	0	0 1	1 1	1 0	Ε	F	+	+	N	Н	+	+	H	Н	+	+	H	Н		+	+	1	١ 0	0	0	0	0	1
3 A	В	С	5	0 0	1	0	1 2	2 0	0	2	1	2	3	1	2	0	0	2	Т	T				T	T	3	8	0	0	T	Т		T	T	T	T	2	5	0	0 3	3 (0	Н	L	T	T	N		T	Т	T			T	Т					1	١0	0	0	0	0	2
4 A	В	С	5	0 0	1	0	1 2	2 (0	2	1	2	3	1	2	0	0	2	T	T				T	T	Т	2	0	0	T				T	T	T		1	0	0 4	1 6	6			T	T	N				T			T						1	4 0	0	0	0	0	3
4 A	В	С	5	0 0	1	0	1 2	2 (0	2	1	2	3	1	2	0	0	2		Т			1	1 1	2	4	3	0	0	Т				Т	1	1	3	6	0	0 8	3 1	1				Т	N				Г			Т						1	4 0	0	0	0	0	4
3 Z	Z	7	Ε	2 0	1	0	1 2	2 (0	2	1	2	3	1	2	0	0	2	Т	Т				Т	8	0	0	0	0	Т	П			Т	Т	1	5	0	0	0 (9)				Т	N			Т	Г			Т						1	4 0	0	0	0	0	1
3 Z	Z	7	Ε	2 0	1	0	1 2	2 (0	2	1	2	3	1	2	0	0	2	Т	Т				Т	Т	7	4	0	0	Т	П			Т	Т	Т	1	4	0	0 2	2 2	2			I	ED	N			Т	Г			Т						1	4 0	0	0	0	0	2
4 Z	Z	7	Ε	2 0	1	0	1 2	2 (0	2	1	2	3	1	2	0	0	2	Т	Т				Т	8	7	4	0	0	Т	П			Т	T	1	6	4	0	0 8	3 1	1		П	T	Т	N			Т	Т			Т						1	4 0	0	0	0	0	3
4 Z	Z	7	Ε	2 0	1	0	1 2	2 0	0	2	1	2	3	1	2	0	0	2	Т	Т			Т	Т	3	2	0	0	0	Т			Т	Т	Т	Т	2	0	0	0 8	3 6	3			Т	Т	N				Т			Т						1	10	0	0	0	0	4

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   <ELEMENT ELEMENTWEIGHT="800.00" TYPEINVENTORYCHANGE="" OTHERRIS=""</p>
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MATERIALBALANCECATEGORY ="81">
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ENTRYSTATUS="N">
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